DOCUMENT RESUME

ED 194 092 IR 008 959

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TITLE Unit Time/Cost Study of the Processing Unit, Technical Services Division, Tucson Public Library. Revised Edition.
INSTITUTION Tucson Public Library, Ariz.
PUB DATE Jun 80
NOTE 11p.; For related documents, see IR 008 956-959.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cost Effectiveness; *Cost Estimates; *Library Technical Processes; *Public Libraries; *Unit Costs
IDENTIFIERS *Time Studies

ABSTRACT

This report is the first of three in a series to determine unit time and cost estimates for the major operations of the Technical Services Division of the Tucson Public Library. Members of the Processing Unit recorded daily activities for a 4-week period and from these logs processing costs were developed. Processing procedures are outlined and time and cost allocations made, with a summary table itemizing these costs in the divisions of new books, nonprint items, and mending. (Author)

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UNIT TIME/COST STUDY OF THE PROCESSING UNIT TECHNICAL SERVICES DIVISION TUCSON PUBLIC LIBRARY

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January 1977

Revised June 1980

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IR008459

INTRODUCTION

This report is a revision of a report issued in January, 1977 which was the first of three planned reports to determine unit time and cost estimates for the major operations of the Technical Services Division of the Tucson Public Library. The three reports in the series are:

> Unit Time/Cost Study of the Acquisitions Unit, Technical Services Division, Tucson Public Library, June 1980. K. Bierman, N. Kayner, J. Mallon.
>
> Unit Time/Cost Study of the Cataloging Unit, Technical Services Division, Tucson Public Library, October 1978. N. Kayner.
>
> Unit Time/Cost Study of the Processing Unit, Technical Services Division, Tucson Public Library, Jan. 1977, Revised June, 1980. K.Bierman.

A fourth report will summarize these three reports and give average unit time and cost estimates for acquiring, cataloging and processing library materials being added to the cataloged collections of the Tucson Public Library. This report is scheduled to be available in August, 1980.

These reports are planned to be revised and updated occasionally to reflect procedural and staffing changes that will occur within the Technical Services Division.

METHODOLOGY

For a four week period (two weeks in February 1980 and two weeks in March 1980) each member of the Processing Unit recorded time spent at various tasks and quantities of materials handled on daily log sheets (see Appendix A for a sample). This report is based upon these measurements.

Costs given in this report are based on hourly rates. By reducing the 40 hour work week to 30 hours, these rates were adjusted to allow for holidays, normal use of annual and sick leave, and breaks. Two cost levels are presented. The first cost level indicates direct personnel costs to which an additional 30% has been added to include fringe benefits (health insurance, social security, etc.) paid by the City. The second cost level adds 75% to the adjusted salary cost to cover overhead (utilities, space, equipment, supplies, administrative costs, etc.). The salary level used in this report is Step 5 of a General Office Clerk using the 1979/80 pay scale.

For every task except one, processing statistics were recorded on a per item basis rather than a per title basis. This is because processing costs are dependent on the number of items, rather than the number of titles. The one exception was proofing labels, where the unit of measure was title. We know from other studies that the average is 2 copies per title and this ratio was used to arrive at a per item cost for proofing labels.

PROCESSING PROCEDURES

Library materials are received from the Cataloging Unit with work sheets containing the necessary information for label production (author, title, call number, price, copy number(s)). The work sheets are pulled by Processing Unit Staff and are given to the Acquiring Unit where the necessary information for label printing is keyed each morning before 10:00 a.m. on an IBM Diskette machine. At 10:00 each day newly keyed diskettes are taken to the City Computer Center at City Hall and the labels keyed the previous day are picked up. During the night, Computer Services runs the computer program that takes the keyed data and prints the multiple copies of the labels needed. This work is done by the Acquiring Unit of Technical Services.

Processing staff check the printed labels against the work sheets to catch keying errors and to circle in red copies for which an "added copy" flag will be required (as indicated on the worksheet). This process is called PROOFING LABELS. Errors and problems are pulled for special handling by the unit supervisor.

After the labels have been proofed, they are matched with the appropriate book truck and the labels are physically attached to the spine, pocket or inside front cover, and circulation cards as appropriate and an "Added Copy" flag is inserted in the appropriate copy if indicated (circled in red). In addition, TUCSON PUBLIC LIBRARY is stamped across the top of the spine and a TPL banner is

attached across the front of the book. This entire process is called LABELING.

Next the books are 3M detection stripped (a magnetic strip is carefully placed down the spine of each book). The books are then plastic jacketed (if they have a dust cover), put on the shelf to go to the bindery (if they are paper and have sufficiently wide margins to allow binding), reinforced (if they are paper and cannot be sent to the bindery), or receive some kind of special handling (vinabinding, velobinding, pam binding, etc.). Approximately 83% of the books processed are plastic jacketed, 10% are sent to the bindery, 6 percent are reinforced and 1 percent receive special handling. Once each week, the volumes to go to the bindery are packed and shipped and generally a shipment back from the bindery is received each week (the bindery requires 3 weeks).

Books are then CLSI bar coded by Cataloging staff. After CLSI bar coding, the books are sorted into the appropriate agency bins by Processing staff. At least 3 times a week the books in the bins are packed into boxes, labeled with the appropriate agency name, and made ready for Deliveries to deliver the boxes to the agencies where the books are unpacked, and shelved ready for public use.

The above description covers books. In addition, the Unit processes various kinds of non-print media (records, audio cassettes, art prints, etc.). Procedures for these materials vary

depending on the material but generally follow similar procedures to those outlined above.

The other major responsibility of the unit is mending. Mending consists of mending or repairing older library materials that need some kind of physical rehabilitation. Examples of the kinds of things done in the unit are: replacing a torn plastic jacket. replacing a spine and/or pocket label that has fallen off, reinforcing spines and/or corners and/or edges with heavy tape, tipping in pages that have come out, etc. Although the average mend costs $1.46, mending varies from a low of $ .65 to a high of $3.20 depending on the difficulty of the mending required.

In addition, the processing unit laminates various things (cards, posters, flyers, etc.) for the library system at an average time of 2 minutes per item laminated which translates into $ .43 per item laminated for staff, fringe benefits, and supplies.

SUMMARY OF UNIT TIMES AND COSTS

The following table summarizes the unit time and costs for the processing operations on a per item basis:

OPERATION	UNIT TIME (MINUTES)	PERSONNEL COST INCLUDING 30% FRINGE	TOTAL COST (STAFF, FRINGE OVERHEAD)
Keying Labels (including delivery to and pickup from Computer Services)[1]	1.6	$ .24	$ .42
Proofing Labels	.4	.05	.09
Labeling	1.9	.23	.41
3M Detection Stripping	.7	.09	.15
Plastic Jacketing	3.75	.46	.80
Bindery Handling (including sending to and receiving from Bindery)	4.0 (est)	.49	.86
Reinforcing	3.1	.38	.66
Special Handing (pambinding, velobinding, etc.)	7.0	.86	1.50
Sorting to Bins	.2	.02	.04
Packing from Bins	.2	.02	.04
Non-Print Processing	4.9	.60	1.05
Mending	6.8	.83	1.46

1. Keying is performed as part of the Acquisitions Unit work.

We can check the reasonable accuracy of the estimates by taking the known weekly work loads for the Processing Unit and multiply them by the unit times and then comparing the results of our calculations with the actual staffing level in the Processing Unit. In addition, we can also project the staffing costs to meet these weekly work loads.

OPERATIONS	TOTAL STAFF REQUIRED IN FTE	WEEKLY STAFF COST INCLUDING FRINGE BENEFITS	WEEKLY STAFF COST INCLUDING FRINGE BENEFITS AND OVERHEAD
New Book Processing			
Proofing Labels (1,500/week)	.25	$ 75.00	$ 135.00
Labeling (1,500/week)	1.25	345.00	615.00
3M Detection Stripping (1,400/week)	.50	126.00	210.00
Plastic Jacketing (1,200/week)	2.00	552.00	960.00
Bindery Handling (150/week)	.25	73.50	129.00
Reinforcing (100/week)	.10	38.00	66.00
Special Handling (15/week)	.05	12.90	22.50
Sorting to Bins (1,500/week)	.1250	30.00	60.00
Packing from Bins (1,500/week)	.1250	30.00	60.00
SubTotal New Book Processing	4.65	$1,282.40	$2,257.50

OPERATIONS	TOTAL STAFF REQUIRED IN FTE	WEEKLY STAFF COST INCLUDING FRINGE BENEFITS	WEEKLY STAFF COST INCLUDING FRINGE BENEFITS AND OVERHEAD
Non-Print Processing (125/week)	.25	$ 75.00	$ 131.25
Mending (200/week)	.50	166.00	292.00
SUB-TOTAL PROCESSING UNIT	5.40	$1,523.40	$2,680.75
Keying Labels[1] (1,500/week)	1.00	360.00	630.00
TOTAL	6.40	$1,883.40	$3,310.75

Actual staffing in 1979/80 in the Processing Unit was 5.5 FTE not including the LTA II Supervisor. Thus the actual staffing level of the Processing Unit (5.5) is very close to the calculated staffing level that is required (5.4).

[1]Keying is done within the Acquisitions Unit.

In summary, the following total unit times and costs per item processed can be projected:

TYPE OF MATERIAL	TOTAL UNIT TIME IN MINUTES	TOTAL UNIT STAFF COST INCLUDING FRINGE	TOTAL UNIT COST INCLUDING STAFF, FRINGE, AND OVERHEAD
Average New Book	8.75	$ 1.11	$ 1.95
Average Non-Print Item	5.3	$ .64	$ 1.13
Average Item Mended	6.8	$ .83	$ 1.46